

Listing of Claims (Including amendments and status):

1       1. (Currently amended) An X.509 certificate stored on a computer readable medium for  
2       execution on computer apparatus supporting network operation using such certificates, said  
3       certificate capable of supporting more than one cryptographic algorithm with an associated  
4       public key, comprising:

5               a signature algorithm and signature for all authenticated attributes including a first public  
6       key associated with using a first cryptographic algorithm;

7               a first certificate extension identifying at least one alternative cryptographic algorithm  
8       and providing a respective associated public key; and  
9               a second certificate extension containing a signature for each alternative cryptographic  
10      algorithm.

1       2. (Previously presented) An X.509 certificate according to Claim 1, wherein the first  
2       cryptographic algorithm is RSA and the alternative cryptographic algorithm is elliptic curve and  
3       the first and second certificate extensions are identified as non-critical.

1       3. (Previously presented) An X.509 certificate according to Claim 1, wherein the certificate can  
2       be verified by either the signature for the first cryptographic algorithm or the signature for the  
3       alternative signature algorithm.

1       4. (Currently amended) A method for enabling an X.509 certificate to support more than one  
2       cryptographic algorithm, with associated public key, said method comprising the steps of:

3               providing the X.509 certificate with a signature algorithm with associated public key and  
4       signature for all authenticated attributes using a first cryptographic algorithm;

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5 providing the X.509 certificate with a first certificate extension identifying at least one  
6 alternative cryptographic algorithm and providing a respective associated public key; and

7 providing the X.509 certificate with a second certificate extension which contains a  
8 signature for [[the]] each alternative cryptographic algorithm.

1 5. (Currently amended) A method for enabling an X.509 certificate to support more than one  
2 cryptographic algorithm according to Claim 4, wherein the first cryptographic algorithm is RSA  
3 and the alternative cryptographic algorithm is elliptic curve and the first and second certificate  
4 extensions are indicated as non-critical.

1 6. (Previously presented) A method for enabling an X.509 certificate to support more than one  
2 cryptographic algorithm according to Claim 4, wherein the certificate can be verified by either  
3 the signature for the first cryptographic algorithm or the signature for the alternative signature  
4 algorithm.

1 7. (Currently amended) Computer readable code stored on computer readable media for enabling  
2 an X.509 certificate to support more than one cryptographic algorithm in association with a  
3 public key, said computer readable code comprising:

4 first subprocesses for providing the X.509 certificate with a signature algorithm and  
5 signature for all authenticated attributes including a first public key using a first cryptographic  
6 algorithm;

7 second subprocesses for providing the X.509 certificate with a first certificate extension  
8 for identifying at least one alternative cryptographic algorithm and providing its associated public  
9 key; and

10 third subprocesses for providing the X.509 certificate with a second certificate extension.

11 which contains a signature for the alternative cryptographic algorithm.

1 8. (Previously presented) Computer readable code for enabling an X.509 certificate to support  
2 more than one cryptographic algorithm according to Claim 7, wherein the first cryptographic  
3 algorithm is RSA and the alternative cryptographic algorithm is elliptic curve and the first and  
4 second certificate extensions are identified as non-critical.

1 9. (Previously presented) Computer readable code for enabling an X.509 certificate to support  
2 more than one cryptographic algorithm according to Claim 7, wherein the certificate can be  
3 verified by either the signature for the first cryptographic algorithm or the signature for the  
4 alternative signature algorithm.

5 10. (Currently amended) In a computing environment, a system for enabling an X.509 certificate  
6 to support more than one cryptographic algorithm, said system comprising:

7 means for providing the X.509 certificate with a ~~signature algorithm and~~ signature for all  
8 authenticated attributes including a first public key using a first cryptographic algorithm;

9 means for providing the X.509 certificate with a first certificate extension identifying at  
10 least one alternative cryptographic algorithm and providing its associated public key; and

11 means for providing the X.509 certificate with a second certificate extension which  
12 contains a signature for the alternative cryptographic algorithm.

1 11.(Previously presented) A system for enabling an X.509 certificate to support more than one  
2 cryptographic algorithm according to Claim 10, wherein the first cryptographic algorithm is RSA  
3 and the alternative cryptographic algorithm is elliptic curve and the first and second certificate  
4 extensions are indicated as non-critical.

1       12. (Currently amended) A system for enabling an X.509 certificate to support more than one  
2       cryptographic algorithm according to Claim 10, wherein the certificate can be verified by either  
3       the signature for the first cryptographic algorithm or the signature for the alternative signature  
4       cryptographic algorithm.